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In the Claims:

1. (Amended) A needleless luer access connector, comprising:

a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion defining an outlet opening extending from the channel;

a barb formed along the sidewall of the channel and extending into the channel;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the top portion and less than the cross section of the channel and a distal portion;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion; and

at least one rib formed on the external surface of the medial portion such that the rib is displaced from the barb until engages the barb when a male luer taper is inserted into the slit, at which point the rib engages the barb.

2. (Original) The needleless luer access connector of claim 1 wherein the longitudinal slit is defined by a pair of transversely extending walls of the septum and the external surface of the medial portion includes at least one portion that is substantially aligned with at least one of the transversely extending walls of the septum and the at least one rib is located on the at least one portion.

3. (Original) The needleless luer access connector of claim 2 wherein the external surface of the medial portion includes two portions, each of which is substantially parallel to the pair of transversely extending walls of the septum.

4. (Original) The needleless luer access connector of claim 3 including two ribs wherein one rib is located on each of the two portions of the external surface of the medial portion.

5. (Original) The needleless luer access connector of claim 4 further including two barbs on the sidewall of the channel.

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6. (Original) The needleless luer access connector of claim 5 wherein the two barbs are about 180 degrees apart.

7. (Original) The needleless luer access connector of claim 6 wherein the two barbs are aligned with the two ribs when a male luer taper is inserted into the slit.

Claims 8-44 have been withdrawn.

45. (Amended) A needleless luer access connector, comprising:
a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a bottom portion having an upper surface ~~defining an upper cavity and an outlet opening extending from the upper cavity such that the inlet opening and the outlet opening are in fluid flow communication;~~

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the proximal portion and less than the cross section of the channel and a distal portion, wherein the distal portion of the septum is displaced from the upper surface of the bottom portion of the housing to define an upper cavity, and wherein the housing further includes an outlet opening extending from the upper cavity such that the inlet opening and the outlet opening are in fluid flow communication;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion such that when a male luer taper is inserted into the slit, the distal portion is moved both laterally and distally into contact with the upper surface, substantially filling of the upper cavity.

46. (Amended) A needleless luer access connector, comprising:
a housing having a top portion defining an inlet opening, a channel defined by at least one sidewall extending from the inlet opening and having a cross section, and a

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bottom portion having an upper surface and an outlet opening extending from the channel such that the inlet opening and the outlet opening are in fluid flow communication;

a septum disposed in the housing, the septum having a proximal portion, a medial portion having an external surface and a cross section less than a cross section of the proximal portion and less than the cross section of the channel and a distal portion having a peripheral surface constrained against movement by the housing;

wherein an upper cavity is defined between the distal portion of the septum and the upper surface of the bottom portion of the housing;

a longitudinal slit extending through the septum from the proximal portion through the medial portion and into the distal portion such that when a male luer taper is inserted into the slit but does not extend completely through the slit, an interior portion of the distal portion of the septum adjacent to the slit is moved distally so as to open the slit adjacent to the distal portion of the septum and substantially filling the upper cavity.